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means for shear thinning the polymer composition to reduce its viscosity and place it to encapsulate at least some of the structural elements of the porous web by enveloping exposed surface portions of the structural elements, thereby only partially filling [leaving] most of the interstitial spaces between said structural elements; [open;]

means for controlling the tension of the porous web during shear thinning of said polymer composition into said web; and

means for curing the polymer composition within the porous web.

Remarks

Applicant extends thanks to Examiner Lorengo for the courtesies extended to Applicant's attorneys during a telephonic interview on May 5, 2000. Pursuant to that interview, Applicant has amended claims 1, 133 and 188 to more specifically recite the elements of the present invention. These amendments add no new matter, are fully supported by the application as filed, and should not be construed as limiting the appropriate scope of protection provided by the doctrine of equivalents.

Claims 1, 133-140, 143, 144, 146-154, 160-165, 179-183, 185 and 188-197 stand rejected under 35 USC §102(b) being anticipated by Caldwell. Claims 166-172 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell. Claims 142, 145, 155-159 and 187 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell in view of Linscott. Claims 175-178 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell in view of Linscott and further in view of Marteness. Claims 141, 166, 173, 174, 184 and 186 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell in view of Linscott. These rejections are addressed in detail below.

35 USC §102(b):

Claims 1, 133-140, 143, 144, 146-154, 160-165, 179-183, 185 and 188-197 stand rejected under 35 USC §102(b) being anticipated by Caldwell. The Office Action states that Caldwell teaches a method and apparatus for the placement of a polymer into a porous web. However, in the previous office action, it is admitted that Caldwell "**does not specifically disclose that the polymer is shear thinned** upon application of the knife to substantially reduce its viscosity." A secondary

reference (Billmeyer) was said to teach the shear thinning element. However, Billmeyer was removed from the present Office Action and it was stated that the “limitations drawn to the polymer and the porous web are work piece limitations...” that are “...not germane to the patentability of the apparatus itself.” Applicant respectfully traverses the 35 USC §102(b) rejection.

Regarding claim 1, the Caldwell reference fails to disclose a “means for shear thinning the polymer composition...”, as recited in line 7. As previously noted, the first Office Action admitted that Caldwell fails to disclose “shear thinning”. However, the Examiner has refused to give weight to any “work piece limitations” drawn to the polymer and the porous web. Applicant is uncertain as to what Examiner means by a “work piece limitation” and requests that the Examiner cite some authority to back up his position because “all words in a claim must be considered in judging the patentability of the claims against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (C.C.P.A. 1970). Claim 1 recites an “Apparatus for controlling the placement of a polymer composition into a porous web...”. Applicant admits that both the polymer and porous web are claimed in a functional manner. However, the mere fact that these limitations are functional does not mean they are to be given no weight. To the contrary, the MPEP states that “A functional limitation **must** be evaluated and considered just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used” (MPEP 2173.05(g)). Therefore, the Examiner must give weight to all of the recited limitations instead of merely the ones he feels are germane to patentability.

Moreover, the initial burden of establishing a *prima facie* basis to deny patentability rests upon the Examiner. *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). In the previous Office Action, the Examiner indicated that the Caldwell apparatus would inherently undergo shear thinning because Billmeyer discloses that most polymers undergo shear thinning with increasing shear rate. However, if the Examiner relies upon the theory of inherency to meet claim limitations, he “must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” *In re King*, 801 F.2d 1324, 231 USPQ 136(Fed. Cir. 1986). Furthermore, “in order for a claim to be inherent in the prior art it is not sufficient that a person following the disclosure sometimes obtain the result set forth in the claim, it must invariably happen”. *Glaxo Inc. v. Novopharm Ltd.* (1993) 830 F. Supp. 871, 29 USPQ2d 1126 (E.D. N.C. 1993), aff’d, 52 F.3d 1043, 34 USPQ2d 1565

(Fed. Cir. 1995). In the instant case, Applicant maintains that, depending on the type of polymer used and the conditions under which the apparatus is operating, shear thinning may or may not occur. Applicant finds support for this assertion on page 173 of the Billmeyer reference, which discloses two types of deviations from Newtonian flow consisting of shear thinning and shear thickening. Although shear thickening is less common, it does occur in some polymers with an increase in shear rate. Therefore, it can not be said that polymeric shear thinning *necessarily* flows from the teachings of Caldwell. Nor can it be said that polymeric shear thinning *invariably occurs* as a result of an increase in shear rate during a waterproof coating process as in Caldwell.

Furthermore, Caldwell fails to disclose or suggest encapsulation of at least some of the structural elements of the web. "Encapsulation" refers to "the partial or complete surrounding, encasement or enclosing by a discrete layer, film, coating, or the like, of exposed surface portions of at least some individual fiber or lining of a cell or pore wall of a porous web" (page 17, lines 28-30). Pursuant to the telephonic interview on May 5, 2000, Applicant has amended claim 1 to more specifically define the encapsulation of the structural elements of the porous web. Basis for this amendment appears, for example, on pages 17 and 18 of the specification. No new matter has been added. Claim 1 presently calls for a 'means for shear thinning...to *encapsulate at least some of the structural elements of the porous web by enveloping exposed surface portions of the structural elements, thereby only partially filling most of the interstitial spaces between said structural elements*'. The Caldwell reference simply does not teach encapsulation, particularly as presently claimed. Thus, claim 1 is now believed to be allowable over the prior art. Accordingly, claims 134-143, 145-186 and 193-196, which depend from claim 1, are also believed to be allowable.

Regarding claim 133, the Caldwell reference fails to disclose or suggest a "means for controlling said tension applying means and said blade means to **shear thin** the polymer composition to substantially reduce its viscosity and to selectively place it into the tensioned web to *encapsulate at least some of the structural elements of the porous web by enveloping exposed surface portions of the structural elements, thereby only partially filling most of the interstitial spaces between said structural elements.*" The Examiner has failed to set forth a *prima facie* rejection of claim 133 because Caldwell does not teach or suggest shear thinning or encapsulation, particularly as presently claimed. Thus, claim 133 is now believed to be allowable over the prior art.

Accordingly, claims 144, 187, 191, 192 and 197, which depend from claim 133, are also believed to be allowable.

Regarding claim 188, the Caldwell reference fails to disclose or suggest a “means for **shear thinning** the polymer composition to reduce its viscosity and place it to **encapsulate** at least some of the structural elements of the porous web *by enveloping exposed surface portions of the structural elements, thereby only partially filling most of the interstitial spaces between said structural elements.*” The Examiner has failed to set forth a *prima facie* rejection of claim 188 because Caldwell does not teach or suggest shear thinning or encapsulation, particularly as presently claimed. Thus, claim 188 is now believed to be allowable over the prior art. Accordingly, claims 189 and 190, which depend from claim 188, are also believed to be allowable.

35 USC §103(a): Caldwell:

Claims 166-172 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell. Claims 166-172 are allowable for the reasons cited with respect to claim 1 since they depend from claim 1. In addition, the Examiner states that although Caldwell does not teach web movement supplied by a nip formed by two counter-rotating rollers, it would allegedly be obvious to do so since “such nip drives are well known in the art”. Applicant notes that the Examiner has not provided a modifying reference and is, in effect, taking Official Notice of the fact that “web movement supplied by a nip formed by two counter-rotating rollers” is well known in the art. Applicant respectfully traverses Examiner’s reliance on common knowledge and challenges Examiner to cite a reference that actually teaches “web movement supplied by a nip formed by two counter-rotating rollers” (see MPEP 2144.03). Alternatively, Examiner should supply an affidavit in support of his position that “web movement supplied by a nip formed by two counter-rotating rollers” is common knowledge in the art. (see 37 CFR 1.104(d)(2)). In view of the above, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection.

35 USC §103(a): Caldwell and Linscott:

Claims 142, 145, 155-159 and 187 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell in view of Linscott. Claims 142, 145, 155-159 and 187 depend from claim 1 and are allowable for the reasons cited with respect to claim 1.

35 USC §103(a): Caldwell, Linscott and Marteness:

Claims 175-178 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell in view of Linscott and further in view of Marteness. Claims 175-178 depend from claim 1 and are allowable for the reasons cited with respect to claim 1.

35 USC §103(a): Caldwell and Linscott:

Claims 141, 166, 173, 174, 184 and 186 stand rejected under 35 USC §103(a) as being unpatentable over Caldwell in view of Linscott. The Examiner states that it would have been obvious to provide a web coated in either a longitudinally and/or transversely tensioned manner during coating and curing to be able to determine the degree to which the polymer impregnates the web. The Examiner also alleges that it would have been obvious to supply the coating knives with resonance dampening to avoid blade chattering. The Examiner further states that it would have been obvious to supply the coating knives with any finish as well as preferentially heating or cooling to control the viscosity of the polymer. Applicant traverses the Examiner's reliance on common knowledge and challenges Examiner to cite a reference that actually teaches (1) a web coated in either a longitudinally and/or transversely tensioned manner during coating and curing ; (2) coating knives supplied with resonance dampening; and (3) coating knives supplied with any finish as well as preferentially heating or cooling (see MPEP 2144.03). Alternatively, Examiner should supply an affidavit supporting his positions that each aforementioned limitation is common knowledge in the art. (see 37 CFR 1.104(d)(2)). Applicant respectfully requests withdrawal of these rejections.

Conclusion

Applicant petitions for an extension of time under 37 CFR § 1.136 [fees: 37 CFR § 1.17(a)(1)-(5)] for a total of 3 months. The Commissioner is authorized to charge Lyon & Lyon's Deposit Account No. **12-2475** for any fees required under 37 CFR §§ 1.16 and 1.17 that are not covered, in whole or in part, by a check enclosed herewith and to credit any overpayments to said Deposit Account **12-2475**.

On the basis of the above amendment and remarks, reconsideration and allowance of the application is believed to be warranted and such action is respectfully requested. If the Examiner has any questions or comments regarding this communication, he is respectfully urged to contact the undersigned at the number listed below.

Respectfully submitted,
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